

# Study on Public Awareness of Utilizing Nuclear Power in China

## –Changes in Public Awareness after the Accident of Fukushima Daiichi Nuclear Power Plants–

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The purpose of this study is to clarify public awareness of utilizing nuclear power in China and to determine the effects of the accident of Fukushima Daiichi Nuclear Power Plants. Web online surveys were carried out before and after the accident of Fukushima Daiichi Nuclear Power Plants. The online survey before the accident of Fukushima Daiichi Nuclear Power Plants had 4,255 adult respondents consisting of 1,851 males and 2,404 females. The online survey after the accident had 721 respondents consisting of 406 males and 315 females. The two online surveys about the attitude toward nuclear power plants consisted of 37 items, such as the necessity of nuclear power plants, the reliability of safety, and government confidence. As a result, respondents of the online surveys in China consider that nuclear energy is more important than the anxiety of accident. On the other hand, women have sensation of fear for the accident of Fukushima Daiichi Nuclear Power Plants and radiation.

**KEYWORDS:** *Fukushima Daiichi Nuclear Power Plants, accident, public awareness, online survey, China*

## I. Introduction

At 2:46 pm on March 11, 2011, one of the largest earthquakes ever recorded hit the Pacific coast side of the Tohoku area. The epicenter was 130 kilometers below the surface of the sea east of Sendai City in Miyagi Prefecture and the magnitude was 9.0 (according to the Japan Meteorological Agency, 8.9 according to the U.S. Geological Survey). It was the fifth largest earthquake since 1900, when human beings started officially recording the intensity of earthquakes.

After the accident at the Fukushima Daiichi Nuclear Power Plant (hereinafter “the accident”) caused by the tsunami following the earthquake, radioactive materials were released into the surrounding area, producing serious consequences. The Nuclear and Industrial Safety Agency of the Ministry of Economy, Trade and Industry (NISA) and the Nuclear Safety Commission (NSC) raised the INES (International Nuclear and Radiological Event Scale) level to Level

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7, a Major Accident, as the amount of radioactive materials released had been significant and had spread over an extensive area. It is comparable to the worst nuclear power plant accident, Chernobyl, in the former Soviet Union in 1986.

The accident is expected to have an impact on the energy strategies adopted and implemented in countries throughout the world. Specifically, one of the focuses is on how the accident may be reflected in the policies of China, which is planning to construct more nuclear power plants than any other country worldwide. The Chinese government declared on March 12 that they would not change their nuclear power promotion plan after the Great East Japan Earthquake. However, on the 16th of the month they suddenly changed the policy and clearly expressed their intention to call off the assessment and ratification (approval process) of nuclear power plant-related projects until they developed a safety plan for nuclear power.

Nevertheless, it is assumed that it is unavoidable for China to increase its dependency on nuclear power from the perspectives of resolving resource limits and promoting environmental conservation. China's dependency on thermal power is high at 90% and in 2009 they became a net importer of coal for fuel. While China depends on imports for petroleum, how it will decrease dependency on thermal power will be one of the most significant issues for the country in order to ensure stable economic growth.

At this stage, nuclear power generation accounts for only 2% of all the power generated in China. However, in order to achieve the grand goal of increasing the share of non-fossil fuels from the current 9% to 15% by 2020, they have no choice but to pursue a nuclear promotion policy. They also have to pay attention to promoting sustainable energies such as wind and solar power. In China, 13 nuclear power plants are currently under operation and another 35 plants will be added over the medium term. It is the largest number in the world at the planning level and they will be distributed widely across the country, but mainly in coastal areas<sup>1)</sup>. Therefore, it is an important issue to ascertain public attitudes in China to nuclear power. While many public awareness surveys have been conducted in Japan<sup>2-7)</sup>, in China, only a few have been carried out<sup>8)</sup>.

## II. Study Objectives and Method

China has a growing interest in the safety of nuclear power in response to the accident at the Fukushima Daiichi Nuclear Power Plant. Some cities in coastal areas in particular have growing concerns about radioactive dispersion. By performing a comparative analysis with survey data obtained before the accident, this study reveals the impact that the accident has had on public attitudes and awareness in China regarding nuclear power generation.

In this study, analysis was conducted based on an online questionnaire survey, which allows respondents who are interested in the survey or are conscious of the issue to be recruited. Respondents answered the questions online.

The first questionnaire survey was conducted between May 2 and June 30, 2010, which was before the accident, and the second survey was conducted between May 9 and May 16, 2011, which was after the accident. Based on the data, we captured what impact the accident had on the public in China.

In addition, the study revealed the changes in public awareness and attitudes of male and female respondents including the level of public knowledge on nuclear power, interest in nuclear power, concerns about nuclear reactor accidents, attitudes towards nuclear power generation (for or against), and the perceived reliability of operating bodies relevant to nuclear power.

### III. Questionnaire Survey on Nuclear Power Use

#### 1. Overview of the Questionnaire Survey

We reviewed what the Chinese public feels about nuclear power and developed questions to ascertain their opinions on nuclear power use and to measure the awareness factors that could have an influence on their opinions. The questions are listed in the Appendix. Each question has four or more multiple-choice answers. The questions are about the utility and need for nuclear power, awareness and the level of knowledge on the use of nuclear power, attitudes (whether for or against) to nuclear energy policies, perceived reliability of nuclear energy operators, how information on nuclear power is obtained, and what the important points are when evaluating nuclear power. In addition, at the end of the questionnaire, the respondent's information, including his/her gender, age, place of birth and academic history, was collected.

The online questionnaire was conducted in Liaoning, Shandong, Jiangsu, Zhejiang, Fujian, and Guangdong. Currently, nuclear power plants in operation, under construction, and planned in China are concentrated in these coastal areas.

We chose these areas because we thought those who live in these areas have more knowledge about nuclear power, a higher interest in energy issues and nuclear power, and are more strongly impacted by the use of nuclear power. The respondents are aged 18 years or older, live in China and use the Internet. Internet users in China consist of people living in urban cities, people with superior education including business people working at foreign companies, and university students. Among them, 53.2% are aged between 18 to 30 years. The Internet is also widely accepted by people in their 40's and 50's. **Table 1** provides an overview of the public awareness survey conducted in China on nuclear power generation.

#### 2. Survey Results and Analysis before and after the Nuclear Accident

##### (1) Survey results before the accident

**Table 2** shows the age and gender composition of respondents who took the public awareness survey on the use of nuclear power conducted before the accident. According to Table 2, 43.5% of the respondents were male and 56.5% were female. We were able to receive responses from a wide range of age groups. Their age groups were as follows; those in their 20's represented highest proportion at 25%, followed by 30's at 22.8%, 40's at 21%, 50's at 13% and aged under 20 years and 60 years or older at 14%. The following describes the features of the results of the main questions.

To find out the level of knowledge on nuclear power generation, the question asked was, "Do you have sufficient knowledge on nuclear power generation?"

The answer was scaled into four levels: "Yes, I have.", "Yes, I have a little.", "No, I don't

**Table 1** Summary of the public awareness surveys on nuclear power generation

Survey type	Survey content	Survey period	Survey regions		Number of valid responses
Online questionnaire survey	Public awareness survey in China on nuclear power	May 2 to June 30, 2010	Liaoning, Jiangsu, Guangdong	Shandong, Zhejiang,	4,255
Online questionnaire survey	Survey conducted 2 months after the accident at the Fukushima Daiichi Nuclear Power Plant	May 9 to May 16, 2011	Liaoning, Jiangsu, Guangdong	Shandong, Zhejiang,	721

have much.” and “No, I don’t have any.” In this question, the level of knowledge is not measured in an objective manner but in a subjective, self-reported manner. According to the results on the level of knowledge on nuclear power measured by this question, you can see 11.4% of the respondents have knowledge regarding nuclear power.

As for interest in nuclear power in China, those who are interested (“Very interested” or “Somewhat interested”) comprise 58.6%, while those who are not interested (“Not very interested”) account for 41.4%. China actively promotes nuclear power generation and the survey found that people in China have high interest in it even after the accident.

To clarify attitudes (for or against) to nuclear energy policies, the following question was asked. “What do you think about China’s future nuclear power generation?” The results showing the degree of support for nuclear energy policies as measured by this question are presented in **Table 3**. The question found that the majority of respondents (58.3%) “Agree” or “Somewhat agree” and thus it seems that the respondents in this survey tend to support the government’s nuclear energy policies.

**Table 2** Age and gender composition of respondents who took part in the public awareness survey on nuclear power generation (before the accident)

Age	Male (%)	Female (%)	Total (%)
Under 20	214 ( 11.6)	196 ( 8.2)	410 ( 9.6)
20–29	516 ( 27.9)	562 ( 23.4)	1,078 ( 25.3)
30–39	427 ( 23.1)	545 ( 22.7)	972 ( 22.8)
40–49	310 ( 16.7)	590 ( 24.5)	900 ( 21.2)
50–59	236 ( 12.7)	330 ( 13.7)	566 ( 13.3)
60 and older	148 ( 8.0)	181 ( 7.5)	329 ( 7.7)
Total (%)	1,851 (100.0)	2,404 (100.0)	4,255 (100.0)

**Table 3** Results of the public awareness survey on nuclear power generation (before the accident)

Question	Response options	Total	Male	Female
Level of knowledge on nuclear power generation	Yes, I have.	11.4%	12.4%	10.4%
	Yes, I have a little.	22.0%	24.6%	19.3%
	No, I don’t have much.	32.3%	28.1%	36.5%
	No, I don’t have any.	34.4%	35.0%	33.8%
Interest in nuclear power	Very interested	21.5%	23.9%	19.1%
	Somewhat interested	37.1%	39.0%	35.2%
	Not very interested	32.5%	29.7%	35.3%
Attitude (for or against) to nuclear energy policy	Not at all interested	8.9%	7.4%	10.4%
	Agree	21.8%	25.1%	18.4%
	Somewhat agree	36.5%	38.9%	34.1%
	Somewhat disagree	27.2%	22.2%	32.1%
Concerns about nuclear power generation	Disagree	14.6%	13.8%	15.4%
	Very concerned	19.8%	18.1%	21.5%
	Somewhat concerned	33.5%	35.4%	31.5%
	Not very concerned	29.9%	29.8%	30.0%
Reliability of nuclear energy operators	Not at all concerned	16.8%	16.6%	17.0%
	Reliable	22.5%	23.4%	21.5%
	Somewhat reliable	44.3%	47.1%	41.5%
	Not very reliable	20.8%	18.7%	22.9%
	Not at all reliable	12.5%	10.8%	14.1%

What people in China place most importance on when evaluating nuclear power energy was “Whether it contributes to solving environmental issues,” which accounts for 47.4%, while many other people (44.8%) answered “Whether energy can be produced safely at low cost by nuclear power generation.” Many people also answered, “Whether the country is capable of responding to an emergency issue when it happens,” “Whether nuclear power generation technology is necessary for society,” “Whether the energy-based society can manage nuclear power without causing problems,” and “Whether the government has already anticipated what kind of influences may happen.” This shows more people are interested in nuclear power technology and its social impact. Furthermore, some people place importance on “Whether nuclear power generation contributes to solving environmental issues,” “Whether influences on unborn babies and children have already been investigated” and “Whether nuclear power generation technology is fully developed.”

As for the issue regarding concerns about nuclear power generation, the question asked, “Do you have concerns that a major accident may happen at a nuclear power plant in China in the future?” The results on the degree of concern about nuclear energy measured by this question are shown in Table 3. It was found that 53.3% of the respondents are concerned about nuclear power generation (either “Very concerned” or “Somewhat concerned”). As for the reason for concern regarding nuclear energy, 40.6% of respondents answered, “China does not have sufficient response measures if a nuclear accident occurs.” In addition, many people answered, “The electricity supplier does not disclose sufficient information or provide PR activities regarding nuclear power” and “Nuclear accidents have happened in the US, Russia and other countries.”

## (2) Survey results after the accident

In the same way as the survey before the accident, a public awareness survey on the use of nuclear power was performed two months after the accident. **Table 4** shows the age and gender composition of respondents who took the public awareness survey on the use of nuclear power conducted after the accident.

This survey was performed to clarify how the accident changed public awareness of and attitudes to nuclear power generation. In the survey, a question was asked whether their thinking and attitudes regarding nuclear power generation in China had changed after the accident. **Table 5** shows the results of this public awareness survey. In the survey, 79% of the respondents answered that their awareness had “changed.” The survey found that the accident had influenced many respondents’ “attitude towards nuclear energy in China.” The results of the survey after the accident found that respondents’ interest in and sense of safety towards nuclear power generation had changed as had their confidence in the reliability of nuclear energy operators.

To be more specific, regarding the level of knowledge on nuclear power generation, the

**Table 4** Age and gender composition of respondents who took part in the public awareness survey on nuclear power generation (after the accident)

Age	Male		Female		Total (%)	
20–29	140	( 34.5)	122	( 38.7)	262	( 36.3)
30–39	150	( 36.9)	107	( 34.0)	257	( 35.6)
40–49	76	( 18.7)	57	( 18.1)	133	( 18.4)
50–59	40	( 9.9)	29	( 9.2)	69	( 9.6)
Total (%)	406	( 100.0)	315	( 100.0)	721	( 100.0)

**Table 5** Results of the public awareness survey on nuclear power generation (after the accident)

Question	Response options	Total	Male	Female
Level of knowledge on nuclear power generation	Yes, I have.	39.0%	39.9%	38.1%
	Yes, I have a little.	35.2%	37.4%	33.0%
	No, I don't have much.	20.1%	18.2%	21.9%
	No, I don't have any.	5.7%	4.4%	7.0%
Interest in nuclear power	Very interested	41.9%	43.8%	40.0%
	Somewhat interested	39.3%	37.2%	41.3%
	Not very interested	15.3%	16.3%	14.3%
	Not at all interested	3.6%	2.7%	4.4%
Attitude (for or against) to nuclear energy policy	Agree	19.1%	25.1%	13.0%
	Somewhat agree	23.3%	28.6%	18.1%
	Somewhat disagree	29.4%	25.4%	33.3%
	Disagree	28.3%	20.9%	35.6%
Concerns about nuclear power generation	Very concerned	24.8%	25.1%	24.4%
	Somewhat concerned	37.8%	39.9%	35.6%
	Not very concerned	26.1%	22.9%	29.2%
	Not at all concerned	11.5%	12.1%	10.8%
Reliability of nuclear energy operators	Reliable	20.0%	21.6%	18.3%
	Somewhat reliable	34.1%	36.7%	31.5%
	Not very reliable	26.3%	23.4%	29.2%
	Not at all reliable	19.7%	18.3%	21.0%

same question was asked; “Do you have sufficient knowledge on nuclear power generation?” The most common response was “Yes, I have.” at 39.0%, while those who answered “No, I don't have any.” was 5.7%.

The results show that the respondents learned more about nuclear power generation after being exposed to a lot of information following the accident. After the accident, the media in China broadcast information about nuclear power every day. The public has acquired knowledge and information about nuclear power through mass media including newspapers, magazines and TV, and via the Internet.

Regarding public interest in nuclear power in China, about 80% of the respondents answered they were interested (“Very interested” and “Interested”), while 3.6% answered “Not at all interested” and 15.3% answered “Not very interested.” China actively promotes nuclear power generation and this questionnaire found that people in China have become more interested in and aware of it.

Regarding attitudes (for or against) to nuclear energy policies in China, the responses to the question about the degree of support for nuclear energy policies revealed that 42.4% of the respondents supported (Agree or Somewhat agree) the country's nuclear energy policies, while 57.7% did not. In relation to technologies to be used as measures to solve energy issues, many respondents answered that “Solar energy should be developed” and “Cleaner fossil fuels should be developed and technologies should be developed and introduced to facilitate more efficient use of fossil fuels,” accounting for 53.6% and 50.1% respectively. As measures to secure energy, many people answered that “Technologies should be developed to secure a stockpile of energy,” “Energy-saving technology should be developed” and the “Development, implementation, and use of nuclear power should be promoted.”

As for what people in China place importance on when they evaluate nuclear power use, many answered, “Whether the country is capable of responding to an emergency issue when

it happens” and, “Whether energy can be produced safely at low cost by nuclear power generation,” accounting for 58.3% and 55.2% respectively. Furthermore, 47.4% of respondents answered that “Whether the government has already anticipated what kind of influences may happen.” Respondents also place importance on “Whether nuclear power generation technology is necessary for society” and “Whether influences on unborn babies and children have already been investigated.”

As for concerns about nuclear power generation in China, 62.6% of the respondents answered that they were “Very concerned” or “Somewhat concerned,” which shows many people became concerned about nuclear power after the accident. Among the respondents, more people answered that “Major nuclear accidents like the one in Japan can also happen in China” and “China does not have sufficient response measures if a nuclear accident occurs” compared to the previous survey. In addition, in this survey, 39.7% of the respondents answered that “Nuclear power technologies are immature in China compared to other technologically developed countries.”

The survey results on the reliability of nuclear energy operators showed that 53.1% of the respondents thought that operators are reliable (“Reliable” or “Somewhat reliable”), while 46.9% thought that operators are not reliable (“Not very reliable” or “Not at all reliable”). Although even after the accident the Chinese government continued to assert, regarding nuclear energy operators in China, that “Our technology is advanced,” “Nuclear problems cannot happen in China,” “Nuclear power plants are not located where earthquakes happen from the start,” and “There is nothing to worry about regarding nuclear power in China,” it is assumed that many people in China wonder if these statements are really true.

### (3) Comparison of awareness related to nuclear power before and after the accident

In this study, comparison and analysis were performed to ascertain public interest in nuclear power, their support for it and how reliable they think it is. Also, we wanted to find out how safe the public thought nuclear power is as well as the public image of nuclear power, both before and after the accident.

**Figure 1** indicates the public interest in nuclear power generation before and after the accident. To the question as to whether they are interested in nuclear power generation in China, the number of respondents who answered “Very interested” increased by 20.4%, while those who answered “Not at all interested” decreased by 5.3%.

As for their opinions on the promotion of nuclear power in China, the percentage of those who responded it “Should be actively promoted” decreased by about 10% compared to the survey before the accident as indicated in **Figure 2**. On the other hand, the percentage of those who answered it “Should be carefully promoted” increased by 4.5% and reached 40.9%.

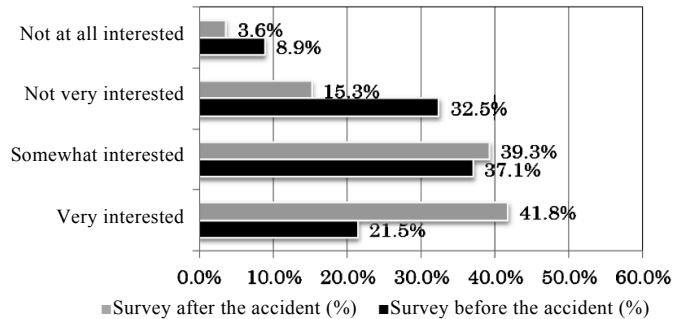
**Figure 3** indicates how reliable the operating bodies relevant to nuclear power are perceived to be before and after the accident. The reliability of nuclear energy operating bodies in China, which is assumed to have significant impact on the use of nuclear energy, has shifted in a negative direction. The percentage of those who answered “Reliable” decreased by 2.5% from 22.5% to 20.0%.

On the other hand, the percentage of those who answered “Not reliable” has increased by 7.2%, to 19.7%. As for the reason, many people answered that “Nuclear accidents have happened in the US, Russia, and other countries,” “Nuclear power technologies are immature in China,” and “China does not have sufficient response measures if a nuclear accident occurs.”

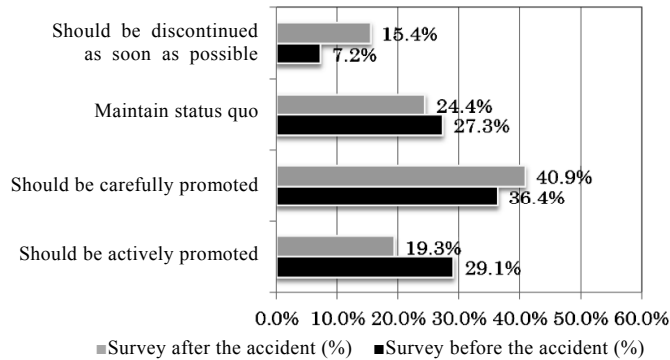
Regarding concerns about nuclear energy in China, those who are concerned about it (“Very concerned” and “Somewhat concerned”) account for 62.6% of all respondents (see

**Figure 4).** Compared to before the accident, those who answered, “Very concerned” and “Somewhat concerned” increased by 5% and 4.3% respectively.

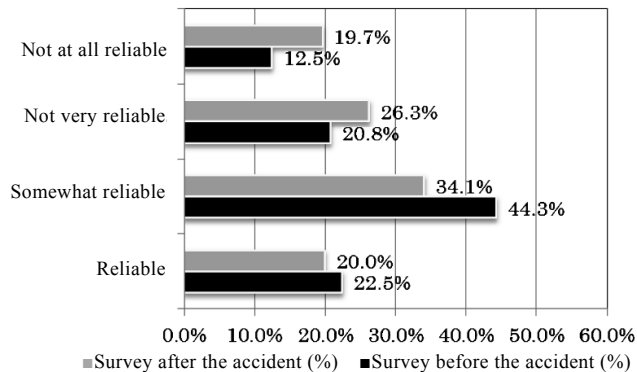
**Figure 5** shows a comparison of the sense of safety towards foods from the surrounding seas before and after the accident. For the question “Would you mind eating foods including vegetables and fish that come from the vicinity of a nuclear power plant?,” 58.2% of respondents answered “Yes” (“Yes, I would mind a little” or “Yes, I would mind”), while 41.8% of them answered “No” (“No, I would not mind at all” or “I would not mind much”) after the accident. Compared to before the accident, the percentage of those who answered



**Figure 1** Interest in nuclear power generation before and after the accident



**Figure 2** Opinions on the promotion of nuclear power before and after the accident

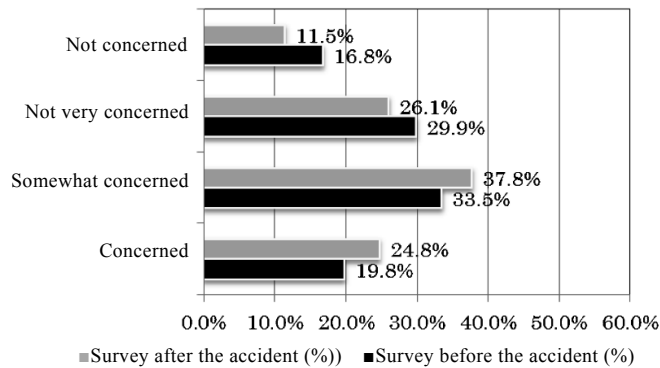


**Figure 3** Reliability of operating bodies relevant to nuclear power before and after the accident

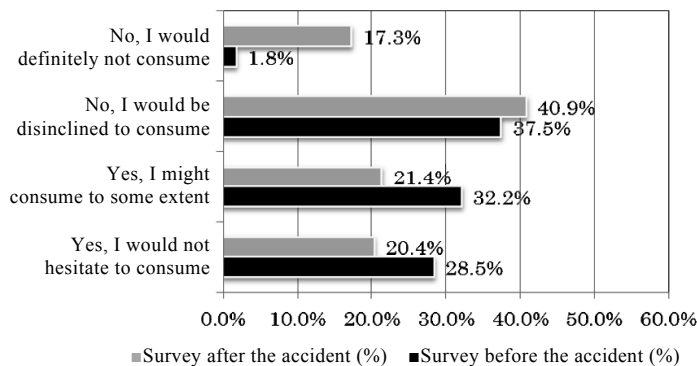


“No” decreased by 18.9%; especially after the accident, more people did not want to have food sourced from near a nuclear power plant, including seaweeds, due to concerns about radioactive contamination of fish from the surrounding seas.

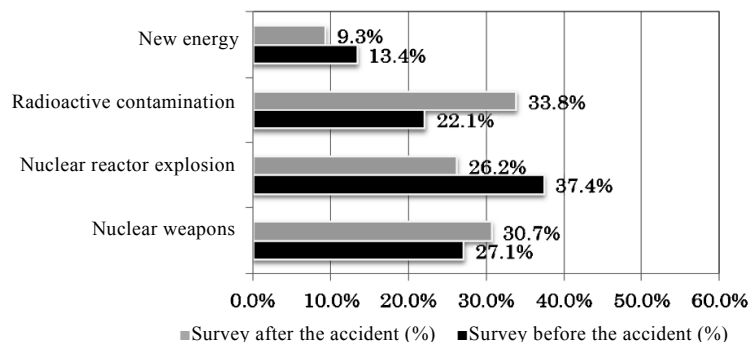
**Figure 6** shows a comparison of the image of nuclear power before and after the accident. The largest number of respondents gave the answer “Radioactive contamination” to the question “What’s the first thing you think of when you hear the words ‘nuclear power’?,” which accounts for 33.8%, an increase of 11.7% from the survey before the accident. Although the number of those who think “Nuclear power = Nuclear reactor explosion”



**Figure 4** Concern about nuclear energy before and after the accident



**Figure 5** Sense of safety towards foods from the surrounding seas before and after the accident



**Figure 6** Image of nuclear power before and after the accident

decreased slightly, the percentage of the public who think “Nuclear power = Radioactive contamination” increased.

**(4) Comparison of impact on males and females before and after the accident**

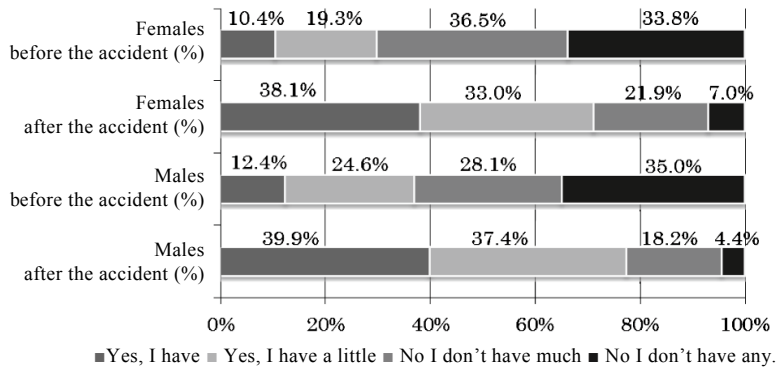
This study also analyzed if there were any differences between male and female respondents based on their answers to the questionnaire survey.

**Figure 7** shows the comparison results of the level of knowledge on nuclear power generation between male and female respondents. Those who answered “Yes, I have.” were 12.4% among males and 10.4% among females before the accident and 39.9% and 38.1%, respectively, after the accident. It shows that males have more knowledge than females even after the accident.

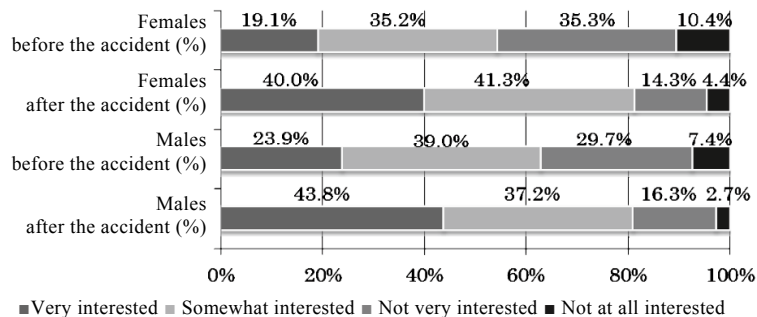
**Figure 8** shows the comparison results of interest in nuclear power between male and female respondents.

Those who answered “Very interested” were 23.9% among males and 19.1% among females before the accident and 43.8% and 40.0%, respectively, after the accident. It shows that males have more interest in nuclear power than females.

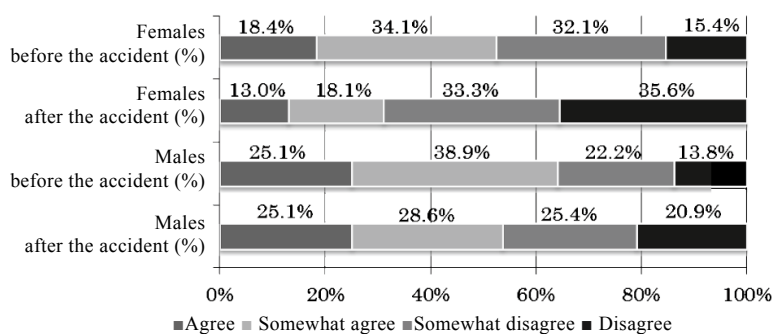
**Figure 9** shows the comparison results of attitudes (for or against) to nuclear energy policies between males and females. Before the accident 64% of males and 52.5% of females were supportive of nuclear energy policies and there was a 7.5% difference between males and females. However, after the accident, 53.7% of males and 31.1% of females were supportive of nuclear energy policies and the gap between them expanded significantly to



**Figure 7** Comparison results of the level of knowledge on nuclear power generation between males and females



**Figure 8** Comparison results of interest in nuclear power between males and females



**Figure 9** Comparison results of attitudes (for or against) to nuclear energy policies between males and females

22.6%. The survey found that while males tend to be positive about nuclear power generation as a new source of energy, females tend to fear accidents, rather than thinking of nuclear power as energy, and have a negative attitude to nuclear energy policies. Moreover, there are gaps between males and females in terms of how safe they think nuclear power is and how reliable nuclear energy operating bodies are.

## IV. Summary

For this study, a questionnaire survey was conducted before and after the accident at the Fukushima Daiichi Nuclear Power Plant and the survey results were compared and analyzed to ascertain the impact that the accident had on public awareness and attitudes in China towards nuclear power generation.

This study found that the accident lowered the public's sense of safety towards the use of nuclear energy, had a negative impact on support for nuclear energy policies, and nuclear energy-related businesses were seen as less reliable after the accident.

Furthermore, the analysis of the differences in awareness between males and females due to the impact of the accident revealed that the percentage in favor of nuclear power ("Agree" and "Somewhat agree") is higher among males than females both before and after the accident. We found that there is a correlation between interest in and level of knowledge on nuclear energy.

Although many people provided ambiguous answers such as "Somewhat" and "Not much" in the survey before the accident, their agreement or disagreement with propositions in the survey after the accident were more definite. This is probably because public interest in and the level of knowledge on nuclear power generation increased in China due to the accident and this meant respondents were more willing to make unambiguous statements.

We believe that these survey results will be a valuable resource when considering nuclear energy policies in not only Japan after the accident but also internationally and when responding to public awareness of and attitudes to the use of nuclear power.

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## –Appendix questions and results of the public awareness survey on future energy use in China–

(For the percentage figures given below, the first (left) represents the value before the accident, and the second (right) is the value after the accident.)

**Question 1:** Did your opinion change towards nuclear power generation in China after the earthquake disaster and accident at the Fukushima Daiichi Nuclear Power Plant?

Choose the one that applies to you.

- (1) Changed 42.2%
- (2) Slightly changed 36.8%
- (3) Not changed 16.5%
- (4) I don’t know 5.5%

(This question was for after the accident only.)

**Question 2:** Are you interested in topics on energy issues?

Choose the one that applies to you.

- (1) Very interested 35.6% 49.2%
- (2) Somewhat interested 32.0% 39.9%
- (3) Not very interested 22.4% 6.1%
- (4) Not at all interested 10.0% 7.4%

**Question 3:** The Earth’s energy resources are limited. What do you think about energy issues in China?

Choose the one that applies to you.

- (1) Very serious 40.6% 47.7%
- (2) Somewhat serious 42.1% 38.6%
- (3) Not very serious 14.4% 9.8%
- (4) Not at all serious 2.9% 3.9%

**Question 4:** Do you have basic knowledge on nuclear power?

Choose the one that applies to you.

- (1) Yes, I have. 11.4% 39.1%
- (2) Yes, I have a little. 22.0% 35.2%
- (3) No, I don't have much. 32.3% 20.1%
- (4) No, I don't have. 34.2% 5.7%

**Question 5:** Are you interested in nuclear power?

Choose the one that applies to you.

- (1) Very interested 21.5% 41.9%
- (2) Somewhat interested 37.1% 39.3%
- (3) Not very interested 32.5% 15.3%
- (4) Not interested 8.9% 3.6%

**Question 6:** Do you think uranium, fuel for nuclear power, is found in broader areas in the world including politically stable countries and therefore the supply of uranium is more stable compared to petroleum?

Choose the one that applies to you.

- (1) Yes, I definitely think so. 28.3% 30.8%
- (2) Yes, I somewhat think so. 34.1% 30.4%
- (3) No, I generally don't think so. 26.0% 23.4%
- (4) No, I definitely don't think so. 11.6% 15.4%

**Question 7:** When thinking about our energy usage in the future, do you think nuclear energy is necessary?

Choose the one that applies to you.

- (1) Yes, I definitely think so. 27.1% 37.1%
- (2) Yes, I somewhat think so. 47.5% 35.4%
- (3) No, I generally don't think so. 17.0% 20.0%
- (4) No, I definitely don't think so. 8.4% 7.5%

**Question 8:** Do you think it would be better for China to increase the number of nuclear power plants?

Choose the one that applies to you.

- (1) Yes, I definitely think so. 22.2% 29.0%
- (2) Yes, I somewhat think so. 38.5% 28.2%
- (3) No, I generally don't think so. 32.9% 25.0%
- (4) No, I don't think so. 6.4% 17.9%

**Question 9:** What's the first thing you think of when you hear the words "nuclear power"?

Choose the one that applies to you.

- (1) Nuclear weapons 27.1% 30.7%
- (2) Nuclear reactor explosion 37.4% 26.2%
- (3) Radioactive contamination 22.1% 33.8%
- (4) New energy 13.4% 9.3%

**Question 10:** Would you mind eating foods including vegetables and fish that come from the vicinity of a nuclear power plant?

Choose the one that applies to you.

- (1) No, I would not mind at all. 28.5% 20.4%
- (2) No, I would not mind much. 32.2% 21.4%

- (3) Yes, I would mind a little. 37.5% 40.9%
- (4) Yes, I would mind. 1.8% 17.3%

**Question 11:** What would you think, if the city/ town/ village you live in or a city/ town/ village nearby planned to establish a nuclear power plant?

Choose the one that applies to you.

- (1) I would agree. 19.8% 19.1%
- (2) I would somewhat agree. 23.5% 23.3%
- (3) I would somewhat disagree. 29.9% 29.4%
- (4) I would disagree. 16.8% 28.3%

**Question 12:** Are you anxious about the methods used to dispose of high-level radioactive waste?

Choose the one that applies to you.

- (1) Yes, I am anxious. 16.5% 26.8%
- (2) Yes, I am somewhat anxious. 22.9% 25.5%
- (3) No, I am not particularly anxious. 48.5% 27%
- (4) No, I am not anxious. 12.1% 20.7%

**Question 13:** What do you think about China's future nuclear power generation?

Choose the one that applies to you.

- (1) Should be actively promoted 29.1% 19.3%
- (2) Should be carefully promoted 36.4% 40.9%
- (3) Status quo should be maintained 27.3% 24.4%
- (4) Should be discontinued as soon as possible 7.2% 15.4%

**Question 14:** Do you think Chinese nuclear energy operators are reliable?

Choose the one that applies to you.

- (1) Reliable 22.5% 20.0%
- (2) Somewhat reliable 44.3% 34.1%
- (3) Not very reliable 20.8% 26.3%
- (4) Not reliable at all 12.5% 19.7%

**Question 15:** Are you concerned that a major accident may happen at a nuclear power plant in China in the future?

Choose one that applies to you.

- (1) Very concerned 19.8% 24.8%
- (2) Somewhat concerned 33.5% 37.8%
- (3) Not very concerned 29.9% 26.1%
- (4) Not at all concerned 16.8% 11.5%

**Question 16:** How do you obtain information on Chinese nuclear power generation?

- (1) From mass media including newspapers, magazines and TV and on the Internet 68.2% 80.97%
- (2) From families, friends and coworkers 12.8% 16.45%
- (3) From specialists and specialized books 13.2% 21.29%
- (4) From civil activities and environmental groups 9.6% 14.52%
- (5) From publications issued by local government and public facilities 8.7% 11.29%
- (6) From the Internet 58.9% 63.55%

**Question 17:** Why are you anxious about nuclear power in China.

Choose all that apply to you.

- (1) Major nuclear accidents like the one in Japan can also happen in China. 25.8% 45%
- (2) Nuclear accidents have happened in the US, Russia and other countries. 35.2% 37%
- (3) Nuclear power technologies are immature in China compared to other technologically developed countries. 30.9% 34.7%
- (4) China does not have sufficient response measures if a nuclear accident occurs. 40.6% 41%
- (5) I don't know what safety regulations are implemented in China. 22.3% 31%
- (6) A series of scandals implicating electrical power suppliers including false reports and data falsification have been exposed. 25.4% 21.5%
- (7) Sufficient information disclosure and PR activities are not provided by electrical power suppliers on nuclear power. 32.9% 23.8%

**Question 18:** These days, countries are promoting measures to secure energy in order to maintain economic growth and support societies. What do you think we should do to address energy issues?

Choose all that apply to you.

- (1) Energy-saving technology should be developed. 25.3% 43.6%
- (2) Development, implementation and use of nuclear power should be promoted. 28.2% 37%
- (3) Solar energy should be developed. 18.7% 53.6%
- (4) Cleaner fossil fuels should be developed and technologies should be developed and introduced to facilitate more efficient use of fossil fuels. 13.4% 50.1%
- (5) Use of non-fossil energy and transfer to gas energy 10.4% 29.2%
- (6) Diversifying imported energy suppliers and strengthening relationships with major energy producing countries. 14.5% 39.0%
- (7) Technologies should be developed to secure a stockpile of energy. 23.7% 39.3%

**Question 19:** What do you consider is the most important factor when evaluating nuclear power energy?

- (1) Whether nuclear power generation technology is necessary for society. 32.9% 44.8%
- (2) Whether researchers and engineers are reliable. 29% 34.2%
- (3) Whether energy can be produced safely at low cost by nuclear power generation. 44.8% 55.2%
- (4) Whether the energy-based society can manage nuclear power without causing problems. 36.8% 43%
- (6) Whether the country is capable of responding to an emergency issue when it happens. 37% 58.3%
- (7) Whether nuclear power generation contributes to solving environmental issues. 47.4%. 33%
- (9) Whether the government has already anticipated what kind of influences may happen in the future. 33.8% 47.4%
- (10) Whether influences on unborn babies and children have already been investigated. 28.6% 35.2%
- (11) Whether nuclear power generation technology is fully developed. 29.35% 22.9%
- (12) Whether information issued by nuclear power plants is correct. 18.8% 25.2%